

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously Presented) An electronic circuit device comprising:
 - a first light source;
 - a second light source;
 - a first substrate;
 - a first optical shutter provided over said first substrate;
 - a second substrate;
 - a second optical shutter provided over said second substrate and under said first substrate;
 - a third substrate;
 - a first optical sensor provided over said third substrate and under said second substrate,
 - a second optical sensor provided over said third substrate and under said second substrate;
- wherein a first light emitted from said first light source is inputted into said first optical shutter, and transmission and non-transmission of said first light are controlled by said first optical shutter, and
- wherein in a case where said first optical shutter transmits said first light, the transmitted first light is inputted into said first optical sensor to convert said first light into a first electric signal by a first electronic circuit provided over said third substrate and under said second substrate,
- wherein a second light emitted from said second light source is transmitted through said first substrate and is inputted into said second optical shutter, and

transmission and non-transmission of said second light are controlled by said second optical shutter, and

wherein in a case where said second optical shutter transmits said second light, the transmitted second light is inputted into said second optical sensor to convert said second light into a second electric signal by a second electronic circuit provided over said third substrate and under said second substrate.

2. (Original) A device according to claim 1, wherein said electronic circuit comprises a thin film transistor.

3. (Original) A device according to claim 1, wherein said electronic circuit comprises a thin film transistor and a single crystal IC (Integrated Circuit) chip.

4. (Previously Presented) A device according to claim 1, wherein at least one of said first optical sensor and said second optical sensor is an amorphous silicon photodiode, or an amorphous silicon phototransistor.

5. (Previously Presented) A device according to claim 1, wherein at least one of said first optical sensor and said second optical sensor is a polysilicon (p-Si) photodiode, or a polysilicon phototransistor.

6. (Previously Presented) A device according to claim 1, wherein at least one of said first optical sensor and said second optical sensor is a single crystal silicon photodiode, or a single crystal silicon phototransistor.

7. (Previously Presented) A device according to claim 1, wherein at least one of said first optical shutter and said second optical shutter comprises a liquid crystal which is sandwiched between two sheets of transparent substrates.

8. (Canceled)

9. (Previously Presented) An electronic circuit device comprising:

a first light source;

a second light source;

a first substrate;

a first optical shutter provided over said first substrate;

a second optical shutter provided over said first substrate;

a second substrate;

a first optical sensor provided over said second substrate and under said first substrate;

a third substrate;

a second optical sensor provided over said third substrate and under said second substrate,

wherein a first light emitted from said first light source is inputted into said first optical shutter, and transmission and non-transmission of said first light are controlled by said first optical shutter,

wherein in a case where said first optical shutter transmits said first light, the transmitted first light is inputted into said first optical sensor to convert said first light into a first electric signal by a first electronic circuit provided over said second substrate and under said first substrate,

wherein a second light emitted from said second light source is inputted into said second optical shutter, and transmission and non-transmission of said second light are controlled by said second optical shutter, and

wherein in a case where said second optical shutter transmits said second light, the transmitted second light is inputted into said second optical sensor to convert said

second light into a second electric signal by a second electronic circuit provided over said third substrate and under said second substrate.

10. (Original) A device according to claim 9, wherein said electronic circuit comprises a thin film transistor.

11. (Original) A device according to claim 9, wherein said electronic circuit comprises a thin film transistor and a single crystal IC (Integrated Circuit) chip.

12. (Previously Presented) A device according to claim 9, wherein at least one of said first optical sensor and said second optical sensor is an amorphous silicon photodiode, or an amorphous silicon phototransistor.

13. (Previously Presented) A device according to claim 9, wherein at least one of said first optical sensor and said second optical sensor is a polysilicon (p-Si) photodiode, or a polysilicon phototransistor.

14. (Previously Presented) A device according to claim 9, wherein at least one of said first optical sensor and said second optical sensor is a single crystal silicon photodiode, or a single crystal silicon phototransistor.

15. (Previously Presented) A device according to claim 9, wherein at least one of said first optical shutter and said second optical shutter comprises a liquid crystal which is sandwiched between two sheets of transparent substrates.

16. (Canceled)

17. (Previously Presented) An electronic circuit device comprising:

a first light source;
a second light source;
a first substrate;
a first optical shutter provided over said first substrate;
a second substrate;
a first optical sensor provided over said second substrate and under said first substrate;
a second optical shutter provided over said second substrate and under said first substrate;
a third substrate; and
a second optical sensor provided over said third substrate and under said second substrate,

wherein a first light emitted from said first light source is inputted into said first optical shutter, and transmission and non-transmission of said first light are controlled by said first optical shutter,

wherein in a case where said first optical shutter transmits said first light, the transmitted first light is inputted into said first optical sensor to convert said first light into a first electric signal by a first electronic circuit provided over said second substrate and under said first substrate,

wherein a second light emitted from said second light source is transmitted through said first substrate and inputted into said second optical shutter, and transmission and non-transmission of said second light are controlled by said second optical shutter,

wherein in a case where said second optical shutter transmits said second light, the transmitted second light is inputted into said second optical sensor to convert said second light into a second electric signal by a second electronic circuit provided over said third substrate and under said second substrate.

18. (Original) A device according to claim 17, wherein said electronic circuit comprises a thin film transistor.

19 (Original) A device according to claim 17, wherein said electronic circuit comprises a thin film transistor and a single crystal IC (Integrated Circuit) chip.

20. (Previously Presented) A device according to claim 17, wherein at least one of said first optical sensor and said second optical sensor is an amorphous silicon photodiode, or an amorphous silicon phototransistor.

21. (Previously Presented) A device according to claim 17, wherein at least one of said first optical sensor and said second optical sensor is a polysilicon (p-Si) photodiode, or a polysilicon phototransistor.

22. (Previously Presented) A device according to claim 17, wherein at least one of said first optical sensor and said second optical sensor is a single crystal silicon photodiode, or a single crystal silicon phototransistor.

23. (Previously Presented) A device according to claim 17, wherein at least one of said first optical shutter and said second optical shutter comprises a liquid crystal which is sandwiched between two sheets of transparent substrates.

24. (Canceled)

25. (Previously Presented) An electronic circuit device comprising:

a first light source;

a second light source;

a first substrate;

a first optical shutter provided over said first substrate;

a second substrate;

a first optical sensor provided over said second substrate and under said first substrate;

a second optical shutter provided over said second substrate and under said first substrate,

a second optical sensor provided over said first substrate;

wherein a first light emitted from said first light source is inputted into said first optical shutter, and transmission and non-transmission of said first light are controlled by said first optical shutter,

wherein in a case where said first optical shutter transmits said first light, the transmitted first light is inputted into said first optical sensor to convert said first light into a first electric signal by a first electronic circuit provided over said second substrate and under said first substrate,

wherein a second light emitted from said second light source is transmitted through said second substrate and is inputted into said second optical shutter, and transmission and non-transmission of said second light are controlled by said second optical shutter, and

wherein in a case where said second optical shutter transmits said second light, the transmitted second light is inputted into said second optical sensor to convert said second light into a second electric signal by a second electronic circuit provided over said first substrate.

26. (Original) A device according to claim 25, wherein said electronic circuit comprises a thin film transistor.

27. (Original) A device according to claim 25, wherein said electronic circuit comprises a thin film transistor and a single crystal IC (Integrated Circuit) chip.

28. (Previously Presented) A device according to claim 25, wherein at least one of said first optical sensor and said second optical sensor is an amorphous silicon photodiode, or an amorphous silicon phototransistor.

29. (Previously Presented) A device according to claim 25, wherein at least one of said first optical sensor and said second optical sensor is a polysilicon (p-Si) photodiode, or a polysilicon phototransistor.

30. (Previously Presented) A device according to claim 25, wherein at least one of said first optical sensor and said second optical sensor is a single crystal silicon photodiode, or a single crystal silicon phototransistor.

31. (Previously Presented) A device according to claim 25, wherein at least one of said first optical shutter and said second optical shutter comprises a liquid crystal which is sandwiched between two sheets of transparent substrates.

32. (Canceled)

33. (Currently Amended) An electronic circuit device comprising:
a first light source;
a second light source;
a first substrate;
a first optical shutter provided over said first substrate;
a second substrate;
a second optical shutter provided over said second substrate and under said first substrate;
a third substrate;

a first optical sensor provided over said third substrate and under said second substrate; and

a second optical sensor provided over said first substrate;

wherein a first light emitted from said first light source is inputted into said first optical shutter, and transmission and non-transmission of said first light are controlled by said first optical shutter,

wherein in a case wherein said first optical shutter transmits said first light, the transmitted first light is inputted into said first optical sensor to convert said first light into a first electric signal by a first electronic circuit provided over said third substrate and under said second substrate,

wherein a second light emitted from said second light source is transmitted ~~[[though]]~~ through said third substrate and inputted into said second optical shutter, and transmission and non-transmission of said second light are controlled by said second optical shutter, and

wherein in a case where said second optical shutter transmits said second light, the transmitted second light is inputted into said second optical sensor to convert said second light into a second electric signal by a second electronic circuit provided over said first substrate.

34. (Currently Amended) A device according to claim 33, wherein at least one of said first electronic circuit and said second electronic circuit comprises a thin film transistor.

35. (Currently Amended) A device according to claim 33, wherein at least one of said first electronic circuit and said second electronic circuit comprises a thin film transistor and a single crystal IC (Integrated Circuit) chip.

36. (Previously Presented) A device according to claim 33, wherein at least one of said first optical sensor and said second optical sensor is an amorphous silicon photodiode, or an amorphous silicon phototransistor.

37. (Previously Presented) A device according to claim 33, wherein at least one of said first optical sensor and said second optical sensor is a polysilicon (p-Si) photodiode, or a polysilicon phototransistor.

38. (Previously Presented) A device according to claim 33, wherein at least one of said first optical sensor and said second optical sensor is a single crystal silicon photodiode, or a single crystal silicon phototransistor.

39. (Previously Presented) A device according to claim 33, wherein at least one of said first optical shutter and said second optical shutter comprises a liquid crystal which is sandwiched between two sheets of transparent substrates.

40.-42. (Canceled)

43. (New) An electronic circuit device comprising:
a first light source;
a second light source;
a first substrate;
a first optical shutter provided over said first substrate;
a second substrate;
a second optical shutter provided over said second substrate and under said first substrate;
a third substrate;

a first optical sensor provided over said third substrate and under said second substrate; and

a second optical sensor provided over said first substrate;

wherein a first light emitted from said first light source is inputted into said first optical shutter, and transmission and non-transmission of said first light are controlled by said first optical shutter,

wherein in a case wherein said first optical shutter transmits said first light, the transmitted first light is inputted into said first optical sensor to convert said first light into a first electric signal by a first electronic circuit provided over said third substrate and under said second substrate,

wherein a second light emitted from said second light source is transmitted through said third substrate and inputted into said second optical shutter, and transmission and non-transmission of said second light are controlled by said second optical shutter,

wherein in a case where said second optical shutter transmits said second light, the transmitted second light is inputted into said second optical sensor to convert said second light into a second electric signal by a second electronic circuit provided over said first substrate, and

wherein said first substrate and said second substrate and said third substrate are laminated on each other.

44. (New) A device according to claim 43, wherein at least one of said first electronic circuit and said second electronic circuit comprises a thin film transistor.

45. (New) A device according to claim 43, wherein at least one of said first electronic circuit and said second electronic circuit comprises a thin film transistor and a single crystal IC (Integrated Circuit) chip.

46. (New) A device according to claim 43, wherein at least one of said first optical sensor and said second optical sensor is an amorphous silicon photodiode, or an amorphous silicon phototransistor.

47. (New) A device according to claim 43, wherein at least one of said first optical shutter and said second optical shutter comprises a liquid crystal which is sandwiched between two sheets of transparent substrates.

48. (New) An electronic circuit device comprising:

a first light source;

a second light source;

a first substrate;

a first optical shutter provided over said first substrate;

a second substrate;

a second optical shutter provided over said second substrate and under said first substrate;

a third substrate;

a first optical sensor provided over said third substrate and under said second substrate; and

a second optical sensor provided over said first substrate;

wherein a first light emitted from said first light source is inputted into said first optical shutter, and transmission and non-transmission of said first light are controlled by said first optical shutter,

wherein in a case wherein said first optical shutter transmits said first light, the transmitted first light is inputted into said first optical sensor to convert said first light into a first electric signal by a first electronic circuit provided over said third substrate and under said second substrate,

wherein a second light emitted from said second light source is transmitted through said third substrate and inputted into said second optical shutter, and transmission and non-transmission of said second light are controlled by said second optical shutter,

wherein in a case where said second optical shutter transmits said second light, the transmitted second light is inputted into said second optical sensor to convert said second light into a second electric signal by a second electronic circuit provided over said first substrate, and

wherein at least one of said first optical sensor and said second optical sensor comprises a thin film transistor for reset, and a cathode electrode, and an anode electrode, and an amorphous film provided between said cathode electrode and said anode electrode, and

wherein said thin film transistor for reset comprises a semiconductor film, and a gate electrode provided adjacent to said semiconductor film with a gate insulating film therebetween, and

wherein said cathode electrode is connected with said semiconductor film.

49. (New) A device according to claim 48, wherein at least one of said first electronic circuit and said second electronic circuit comprises a thin film transistor.

50. (New) A device according to claim 48, wherein at least one of said first electronic circuit and said second electronic circuit comprises a thin film transistor and a single crystal IC (Integrated Circuit) chip.

51. (New) A device according to claim 48, wherein at least one of said first optical shutter and said second optical shutter comprises a liquid crystal which is sandwiched between two sheets of transparent substrates.